

# Illegal hunting in the Serengeti ecosystem: Social and molecular genetic methods of combating crimes against fauna

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Tanzania has many different and diverse wildlife populations spread across a network of protected areas extending over the whole country.

These wildlife populations are under threat from illegal [hunting](#) and large [herbivores](#) are particularly sought-after game. In the future, however, [genetic markers](#) can be used to identify meat from game in order to combat crimes against animals.

Even though the battle against illegal hunting has intensified, [poachers](#) are still very active. Attempts to put a stop to this kind of hunting are hampered by a defective judicial system and by problems associated with finding sufficient evidence so that the offenders can be prosecuted.

Stella Bitanyi has developed molecular genetic methods of identifying species of wild herbivores in Serengeti in Tanzania. Most of the herbivores that are attractive as game or [bushmeat](#) for poachers in this area were included in Bitanyi's study and this [genetic tool](#) can now be used for monitoring and estimating wildlife populations and for acquiring technical evidence in crime cases against wildlife both in Tanzania and in other parts of the world.



Impala kills from illegal hunting. Credit: Stella Bitanyi

The efficacy of the genetic methods was validated by testing them on known species, which then functioned as references for the identification of bushmeat on offer at local markets. The findings of the study also provide important information about the extent of poaching,

particularly in view of the fact that the bushmeat tested came from areas where hunting is strictly forbidden. Meat from many different species was on sale and also meat from protected species which are important both for Tanzania and for the international community, as for example the giraffe and the elephant. Other species, such as the buffalo, are so overexploited that they are in danger of becoming extinct in Serengeti.

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Preservation through sun drying of illegal hunted bushmeat. Credit: Stella Bitanyi

Bitanyi's doctoral research also included a survey of local communities' awareness about illegal hunting. The results of the study showed that these communities had adequate knowledge about illegal hunting, law enforcement and the importance of protecting animal species. Tribes with strong hunting traditions, and especially men, knew a great deal about the restrictions on the exploitation of wildlife resources and about the consequences this had for them.

Information about species identification of bushmeat on sale in the local communities was unreliable, whether the meat was legally or illegally acquired. However, the reliability depended on the position the person concerned had in the trade chain.

The field studies were conducted in Tanzania, while the laboratory work and data analysis were carried out at the Norwegian School of Veterinary Science in Oslo.

Stella Bitanyi defended her PhD research on 5th December 2012 with a thesis entitled "[Illegal hunting](#) in the Serengeti ecosystem, Tanzania: social and molecular genetics approaches towards forensic investigations".

Provided by Norwegian School of Veterinary Science

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